Recombinant Human MuSK His-tag

Catalog Number: 11421-MK

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human MuSK protein Leu24-Thr495, with a C-terminal 6-His tag Accession # O15146.1
N-terminal Sequence Analysis	Leu24
Predicted Molecular Mass	53 kDa

SPECIFICATIONS

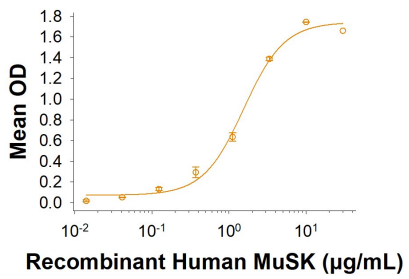
SDS-PAGE	58-72 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Recombinant Human MuSK His-tag binds to Recombinant Human LRP-4 Protein (Catalog # 5948-LR) / Recombinant Human Agrin Protein (Catalog # 6624-AG) with a ED_{50} of 0.300-3.00 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

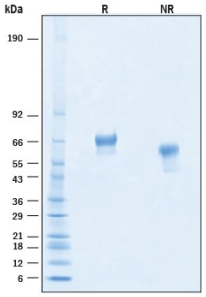
DATA

Binding Activity



Recombinant Human MuSK His-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. Recombinant Human MuSK His-tag Protein (Catalog # 11421-MK) binds to Recombinant Human LRP-4 Protein (Catalog # 5948-LR / Recombinant Human Agrin Protein (Catalog # 6624-AG) with a ED_{50} of 0.300-3.00 µg/mL.

SDS-PAGE



Recombinant Human MuSK His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human MuSK His-tag Protein (Catalog # 11421-MK) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 58-72 kDa, under reducing conditions.

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BACKGROUND

Musk (muscle-specific kinase) is a 53 kDa type I transmembrane (TM) protein belonging to the receptor tyrosine kinase family (1). It contains a 472 aa extracellular domain (ECD), a 21 aa transmembrane domain, and a 353 cytoplasmic domain (1). Within the ECD, Human Musk shares 91% and 92% aa sequence identity with mouse Musk and rat Musk, respectively. It is found in the postsynaptic membrane of skeletal muscle motor endplates (2). Human Musk has multiple isoforms. One contains deletions at residues 307-394 and 454-461, while a second is a short soluble form that contains residues 120-209 plus a unique 24 aa C-terminal tail (3). Musk binds the heparin sulfate proteoglycan Agrin to promote acetylcholine receptor clustering. It has also been found to bind with low-density lipoprotein receptor-related protein 4 (LRP4) (4), Wnt ligands (5), Biglycan (6), and ColQ (7). Recent studies have showed that Musk does not bind Agrin directly, but enhanced the MuSK-LRP4 interaction (7, 8). When Agrin binds to the N-Terminal region of LRP4, this promotes the association of LRP4 and Musk, which then stimulates Musk kinase activity (9, 10).

References:

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